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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,574	01/02/2002	Kellar Autumn	14134-002001	1771
22434 7	590 08/11/2006		EXAMINER	
BEYER WEAVER & THOMAS, LLP			AFTERGUT, JEFF H	
P.O. BOX 702: OAKLAND, O	50 CA 94612-0250		ART UNIT	PAPER NUMBER
- ,			1733	
			DATE MAILED: 08/11/2006	6

Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No.	Applicant(s)	
	10/039,574	AUTUMN, KELLAR	
Office Action Summary	Examiner	Art Unit	
	Jeff H. Aftergut	1733	
The MAILING DATE of this communication a Period for Reply	ppears on the cover sheet with th	e correspondence address	
A SHORTENED STATUTORY PERIOD FOR REF WHICHEVER IS LONGER, FROM THE MAILING - Extensions of time may be available under the provisions of 37 CFR after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory peric - Failure to reply within the set or extended period for reply will, by stat Any reply received by the Office later than three months after the mai earned patent term adjustment. See 37 CFR 1.704(b).	DATE OF THIS COMMUNICATI 1.136(a). In no event, however, may a reply be od will apply and will expire SIX (6) MONTHS fr ute, cause the application to become ABANDO	ON. e timely filed om the mailing date of this communication NED (35 U.S.C. § 133).	
Status			
1) Responsive to communication(s) filed on 16	lune 2006		
· · · · · · · · · · · · · · · · · · ·	nis action is non-final.		
3) Since this application is in condition for allow		prosecution as to the merits	ie
closed in accordance with the practice under	•		
Disposition of Claims			
4) Claim(s) <u>24-29,36-40 and 51</u> is/are pending	in the application.		
4a) Of the above claim(s) is/are withdo			
5) Claim(s) is/are allowed.			
6) Claim(s) <u>24-29,36-40 and 51</u> is/are rejected.			
7) Claim(s) is/are objected to.			
8) Claim(s) are subject to restriction and	l/or election requirement.		
Application Papers			
9) The specification is objected to by the Exami	ner.		
10) The drawing(s) filed on is/are: a) □ ad	ccepted or b) objected to by th	e Examiner.	
Applicant may not request that any objection to the	ne drawing(s) be held in abeyance. S	See 37 CFR 1.85(a).	
Replacement drawing sheet(s) including the corre	ection is required if the drawing(s) is	objected to. See 37 CFR 1.121	(d).
11) The oath or declaration is objected to by the	Examiner. Note the attached Offi	ce Action or form PTO-152.	
Priority under 35 U.S.C. § 119			
12) Acknowledgment is made of a claim for foreignal All b) Some * c) None of:	gn priority under 35 U.S.C. § 119	(a)-(d) or (f).	
 Certified copies of the priority docume 	nts have been received.		
Certified copies of the priority docume	• •		
3. Copies of the certified copies of the pr		ived in this National Stage	
application from the International Bure			
* See the attached detailed Office action for a li	st of the certified copies not rece	ived.	
Attachment(s)			
1) X Notice of References Cited (PTO-892)	4) Interview Summa	ary (PTO-413)	
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail	Date	
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/0 Paper No(s)/Mail Date 3-24-03,3-5-03.	6) Other:	al Patent Application (PTO-152)	

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Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 2. Claims 24-29, 36-40 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Full et al (US 6,737,160) or Full et al (US 7,011,732).

Either one of Full et al '723 or Full et al '160 suggested that it was known at the time the invention was made to apply a plurality of seta to a beam. More specifically, the references each taught that seta 26a-26d were attached to the end of a beam 202. The beam 202 was the end of a manipulator 200. The beam with the seta so disposed on the end thereof was used to pick up a wafer for example wafer 204 in a micromachine processing system. The reference taught that the seta was manipulated with the beam to produce a preload force by applying the seta to the surface with a perpendicular force. Following the application of the preload force, the seta were manipulated to orient the seta parallel to the surface by moving the seta parallel to the surface of the wafer in order to generate a greater adhesive force. The reference then used the flexible beam to pick up the wafer as the manipulator was operated. The reference failed to expressly state that the preload force applied was between 0.01 –0.1 grams, however one skilled in the art would have determined the desired preload force applied in order to attain the desired adhesive force with the assembly. It should be noted that each discussed the import of the preload force applied to the seta in the adhesive force generation

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operation in detail with reference to Figures 1A-4 of both references. Clearly, one skilled in the art would have provided a beam which was capable of provision of the required preload force in order to facilitate a bond so that the component was capable of being picked up by the manipulator. Additionally, the beam is viewed as a "flexible" beam within the meaning of the term as flexible is deemed to be a relative term and one skilled in the art working on micromachines would have understood that the beam used to pick up the same would have been of a slight dimension (and thus flexible). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the techniques of either one of Full et al '160 or Full et al '723 to establish an adhesive force adequate to employ the manipulator as a pick and place device for a micromachining operation wherein one skilled in the art would have determined through routine experimentation (the optimum amount) and applied the desired preload force upon the seta in order to facilitate pick up of the components in the process with the flexible beam therein.

Regarding claim 25, note that the reference suggested that the adhesive force was greater than the cumulative force of applying a pulling of the seta. Regarding claims 26-28, note that the references to Full '160 and Full et al '723 both suggested that the optimum angle for detachment was 30 degrees. Regarding claim29 note that both references suggested that the preload force was produced while the seta were aligned parallel with the surface. Regarding claims 36-38, the references to Full et al '723 and Full et al '160 suggested that those skilled in the art would have employed artificially manufactured seta in the operation of establishing an adhesive force wherein

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the artificial seta would have been protrusions within the meaning of the claims. Additionally both of Full et al '160 and Full et al 723 suggested that one skilled in the art would have pulled the seta along the surface with a velocity to increase the adhesive force generated by the seta and/or protrusions. Regarding claim 39, note that the references suggested the use of the manipulator to pick up a wafer. While a wafer was deemed to be a substantially planar substrate one skilled in the art would have understood that the processing of the references would have been useful for the pick up of non-planar objects as well such as cylinders and shafts and there is simply no reason to believe that the manipulator described would not have been capable of pick up of such objects (as a function of the manufacturing be performed and the need to move the various minute components). Regarding claim 51, note that the prior art suggested that those skilled in the art would have employed plural seta on the manipulators therein wherein the seta were joined to the beam at one end. Additionally note that the references suggested that those skilled in the art would have utilized artificial seta in the processing (protrusions).

Response to Arguments

3. Applicant's arguments with respect to claims 24-29, 36-40 and 51 have been considered but are most in view of the new ground(s) of rejection.

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Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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JHA August 9, 2006